

REPORT ON BOILERS.

No. 80625

Received at London Office 9th 1926

Date of writing Report 1926 When handed in at Local Office 24/9/1926 Port of Newcastle-on-Tyne

No. in Survey held at Newcastle-on-Tyne Date, First Survey 22 March Last Survey 16 Sept 1926

on the New Steel S.S. Greathope (Number of Visits —) Tons { Gross — Net —

Master Built at Burntisland By whom built Burntisland S.B. & Co. Ltd. Yard No. 137 When built 1926

Engines made at Newcastle-on-Tyne By whom made North Eastern Marine Engineering Co. Ltd. Engine No. 2622 When made 1926

Boilers made at ditto By whom made ditto Boiler No. 2622 When made

nominal Horse Power Owners Newbiggin Steam Shpg Co Ltd Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel D. Bechtle & Sons Ltd. (Letter for Record S)

Total Heating Surface of Boilers 5210 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers Two single-ended Cylindrical Working Pressure 180 lbs.

Tested by hydraulic pressure to 320 lbs Date of test 1st 26 No. of Certificate 113 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 64.5 No. and Description of safety valves to each boiler Two Spring loaded

Area of each set of valves per boiler { per Rule 16.986 sq ft as fitted 19.78 sq ft Pressure to which they are adjusted 185 Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-10" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 1'-6" Is the bottom of the boiler insulated No

Largest internal dia. of boilers 15'-9 7/16" Length 11'-0" Shell plates: Material Steel Tensile strength 28-32 tons

Thickness 1 3/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double inter. 3 3/4" }
long. seams Triple S.B.S. Diameter of rivet holes in { circ. seams 1 5/16" long. seams 1 5/16" Pitch of rivets { 9 5/16" 3 3/4" }

Percentage of strength of circ. end seams { plate 65 rivets 46.2 Percentage of strength of circ. intermediate seam { plate 85.9 rivets 87.3 combined 89. Working pressure of shell by Rules 180 lbs

Percentage of strength of longitudinal joint { plate 85.9 rivets 87.3 combined 89. Thickness of butt straps { outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler Three Deighton

Material Steel Tensile strength 26-30 tons Smallest outside diameter 47 7/16"

Length of plain part { top bottom } Thickness of plates { crown 1 1/2" bottom 3/32" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 182 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/32" Pitch of stays 28 1/2" x 20 1/4"

How are stays secured Double nuts Working pressure by Rules 181 lbs

Tube plates: Material { front Steel back Steel Tensile strength { 26 to 30 tons 26 to 30 tons Thickness { 1 5/16" 3/4" Working pressure { front 181 lbs back 182 lbs

Mean pitch of stay tubes in nests 10 1/4" Pitch across wide water spaces 14 1/2"

Girders to combustion chamber tops: Material Steel Tensile strength 28 to 32 tons Depth and thickness of girder

at centre 9 1/8" - 1 5/8" Length as per Rule 33" Distance apart 11 1/2" No. and pitch of stays

in each Two 10" Working pressure by Rules 183 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 25/32 Back 25/32 Top 25/32 Bottom 1" Pitch of stays to ditto: Sides 11 1/2" x 10" Back 11" x 10 1/2" Top 11 1/2" x 10" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 185 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 1 5/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 1 5/16" 29 1/16"

Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 182 lbs Main stays: Material Steel Tensile strength 28 to 32 tons

Diameter { At body of stay, 3 1/2" Over threads 3 3/4" No. of threads per inch Six Area supported by each stay 577.125 sq in

Working pressure by Rules 187 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter { At turned off part, 1 3/8" Over threads 1 3/8" No. of threads per inch Nine Area supported by each stay 115.5 sq in

Working pressure by Rules 184 lbs. Are the stays drilled at the outer ends *no.* Margin stays: Diameter { At turned off part, or Over threads. 2" ✓
No. of threads per inch *nine* Area supported by each stay 181.25 sq" Working pressure by Rules 180 lbs.
Tubes: Material *iron* ✓ External diameter { Plain 3 1/4" ✓ Stay 3 1/4" ✓ Thickness { No. 8 11.5 ✓ 1/4" - 5/16" - 1/2" ✓ No. of threads per inch *nine* ✓
Pitch of tubes 4 1/2" x 4 3/8" ✓ Working pressure by Rules *plain 220 lbs Stay 208 lbs* Manhole compensation: Size of opening
End plate 16" x 12" ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 5/16" ✓ Steam Dome: Material *none* ✓
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets
Internal diameter Working pressure by Rules Thickness of crown No. and diameter
stays Inner radius of crown Working pressure by Rules
How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell

Type of Superheater *North Eastern Smoke Tube* ✓ Manufacturers of Tubes *Weldless Steel Tube Co. Ltd. Wednesfield.* ✓
Number of elements 122. Material of tubes *Solid drawn steel* ✓ Steel castings *none (cogged slabs).* ✓
Material of headers *Mild steel* ✓ Tensile strength 26-30 tons ✓ Thickness 1/8" ✓ Internal diameter and thickness of tubes 1 1/2" x 2.5" ✓
the boiler be worked separately *yes* ✓ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *yes* ✓
Area of each safety valve 3.1416 sq" ✓ Are the safety valves fitted with easing gear *yes* ✓ Working pressure as plates
Rules 180 lbs ✓ Pressure to which the safety valves are adjusted 185 lbs ✓ Hydraulic test pressure
tubes 1500 lbs sq" ✓ Headers 540 lbs sq" ✓ and after assembly in place 450 lbs sq" ✓ Are drain cocks or valves fitted
to free the superheater from water where necessary *yes* ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *yes* ✓

The foregoing is a correct description,

Blunthill Manufacturer

Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - }

See Machinery Report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These Boilers have been built under Special Survey. Materials & workmanship good. Hydraulic Tests satisfactory. They are efficiently installed & secured in the vessel, they were examined under steam & their safety valves adjusted as above.

Survey Fee ... £ *See Machinery Report*
Travelling Expenses (if any) £

When applied for, 192
When received, 192

William Dutton & R. L. Annear (per W.D.)
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 28 SEP 1926

Assigned *see Minute on attached*
J. E. Rpt. Dwe 80625



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Foundation